

Gebruiksaanwijzing

User manual

Gebrauchsanweisung

Kabola Btap-series



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Preface

This user-manual is written to enable the safe operation of the Btap-Series central heating boilers with domestic hot water supply. The user must read this manual before installation of the boiler and must follow the instructions within this manual.

Therefore, this manual must be kept with the boiler.

In chapter 2, the safety instructions are detailed, which have to be complied with when installing and using the boiler. In other chapters you will find safety instructions, that can be identified in the following way.

Hint: This gives the user suggestions and advise to facilitate the execution of certain tasks.

Attention: Additional information is supplied to the user, and possible problems are indicated.

Warning: Watch out for possible (life-threatening) injuries.

For any remarks, wishes or omissions you can contact Kabola Heating Systems. We also welcome any remarks to improve this manual. We wish you a lot of pleasure from your purchase.

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1 Introduction

1.1 General introduction

Congratulations with your purchase of this Kabola boiler. This user-manual covers the Btap-Series central heating boilers with domestic hot water supply. The Btap-Series central heating boilers with domestic hot water supply cover a wide range of boilers with a broad range of applications. By purchasing this boiler you have acquired a product, which is of high quality through the application of the latest European standards and directives.

1.2 Range application

The Btap-Series boilers are designed to generate heat for the heating of water for a central heating system. The boilers can also be used for the generation of domestic hot water by means of an integrated water spiral. The dimensions of the rooms to be heated, have to be taken into consideration.

These boilers are not designed for direct heating of the rooms in which they are installed.

1.3 Product description

The Btap-Series boilers heat the central heating water by means of a pressure jet burner which is installed on front of the boiler. The boilers are available in both 230 VAC and 24 VDC versions. The 230 VAC model requires a small 24 VDC power supply for control purposes. All Btap-Series boilers work in the same way, they only differ in the dimensions and the capacities of the boilers (see also the technical specifications in Appendix A).

For fuel, diesel oil has to be used.

At special request there is also a model available which operates on kerosene (paraffin)

1.4 Technical specifications

The most important technical specifications are listed on the plate on the front of the boiler. More technical details are listed in Appendix A.

1.5 Guarantee

For the conditions for guarantee we refer you to the guarantee certificate.

2 Safety

In this chapter we emphasise the safety-related points for operating the boiler.

2.1 General safety

Warning: Although Kabola Heating Systems designs and produces its products according to the current safety standards, it is possible that dangers may present themselves, which could lead to injuries or damage to the boiler, if the safety instructions in this manual are not complied with.

The user must:

- Have read and understood the chapter "safety"
- Avoid any actions which may lead to dangers to his health or others
- Avoid any actions which may lead to damage to the boiler.
- Ensure that the boiler is only used when the boiler is in sound technical condition.
- Ensure that the safety regulations are observed whilst operating the boiler.

Attention: No alterations to the boilers may be done without the explicit written consent of Kabola Heating Systems!

2.2 Safety instructions

In this chapter we emphasise the safety-related points for operating the boiler.

MEASURES FOR A SAFE INSTALLATION

- Don't store any flammable and/or gaseous products in the room where the boiler is installed to avoid explosions and fires.
- Install the boiler in a non-humid environment on a firm horizontal base.
- Ensure that there is sufficient ventilation in the room where the boiler is installed (See also 4.1.1)
- Make sure, before you start connecting the boiler, that the system is disconnected from the power supply.
- Only use multi-stranded wire for electrical connections.
- Do not change the + pole with the – pole of the battery (for the 24 Volt DC power supply)

MEASURES FOR A SAFE OPERATION

- Never change the settings of the burner.
- Don't use any aggressive solvents which may affect the boiler (like petrol or turpentine)
- Don't damage the fire bricks.
- Make sure that the boiler and burner are checked annually by a skilled expert.
- Make sure that before you start any work on the boiler that the system is disconnected from the power supply.
- Make sure that any surplus oil is collected in case of oil spillage.
- We advise you to have any maintenance or repairs carried out by skilled experts.

3 Transport and storage

3.1 Transport

Take following precautions before transporting the boiler:

- Drain the water from the boiler
- Uncouple the fuel system
- Remove the burner (see 4.1.5, replacing the burner)

While transporting the boiler, take following precautions:

- Don't damage the boiler, use a blanket to cover the boiler.
- Transport the boiler lying down on its back
- For the boiler models B-25 onwards use the hoisting eye to move the boiler. This hoisting eye is located below the top of the boiler cover.

3.2 Storage

Take the following precautions when the boiler is stored for a longer period of time:

- Store the boiler and accompanying parts in a dry place.
- Dismount the burner (see 4.1.5)
- Store the boiler standing up.
- Store the boiler on a firm horizontal base.

4 Installing and preparing for first use

In this chapter you will find directions and hints for a correct placement and fitting of the boiler and accompanying parts.

Warning: Do not store any flammable and gaseous substances in the room where the boiler is installed. This is to ensure that no explosions or fires can occur.

4.1 Installation

4.1.1 Fitting the boiler

- Install the boiler in a dry place.
- Install the boiler on a firm horizontal base.
- Make sure there is sufficient supply of fresh air in the room where the boiler is installed (see hint below)

Hint: As a rule of thumb for the ventilation openings, take 2,5 times the diameter of the flue gas outlet.

- To avoid movement secure the base of the boiler by means of spotwelds or with nuts and bolts.
- Keep a minimum distance of 250mm behind the boiler for the flue-gas outlet (see figure 1)
- Use an earthed plug socket for connecting the 230 V AC versions to the power supply.

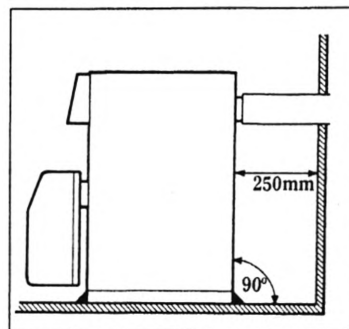


Figure 1

4.1.2 Connection to the central heating system

PIPING

Take note of the following points, when installing the piping:

- Install the piping in such a way, that the boiler (cover and dashboard) remains accessible.
- Provide enough bleed points in places where air may collect especially near the boiler

Hint: You may install a shunt with pressure equaliser, when thermostatic radiator valves are applied.

Connect the piping to the boiler as follows (see figure 2)

1. Install the feed to the CH at point A
2. Install the return of the CH on point C

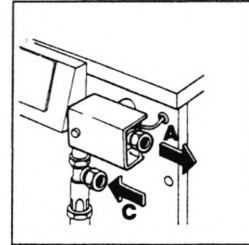


Figure 2

4.1.3 Connection of domestic hot water supply

The cold water supply must have a pressure between 1,5 bar and 5 bar to ensure correct operation of the system.

Connect the domestic hot water supply as follows (see figure 3):

1. Install the hot water feed to point A (15 mm)
2. Install the cold water supply to point B

Hint: Because the water pressure may be variable, we advise you to install a thermostatic showerhead. This ensures a constant water temperature.

The boiler may be used when the sanitary water supply is not connected.

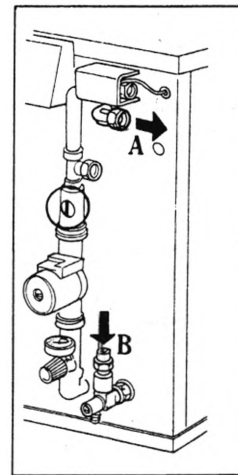


Figure 3

4.1.4 Flue gas outlet

GENERAL

The flue gas outlet is an essential part of your heating installation. An incorrect flue gas outlet reduces the lifespan of your boiler considerably and has a negative impact on the efficiency. Remember when installing the flue, that even the best boiler won't work properly unless the flue is properly installed.

Warning: Because the flue gas temperature lies between 180 - 240°C, it is advisable to insulate the flue with heat-resistant material on those parts where contact with human body parts is possible.

For a correct flue gas outlet the following points need to be observed:

- Use the proper length/diameter dimensions, use a diameter equal to the diameter of the flue gas outlet on the boiler (see also technical specifications)
- Use double-walled chimney pipe outside to prevent a rapid cooling of the flue gasses, which may result in condensation in the chimney.

Hint: When using a existing chimney of a larger diameter than the diameter on the boiler, you can install flexible piping of the correct diameter inside the existing chimney.

The flue can be installed in several different ways. You must carefully consider under which circumstances the boiler will be used. For sea going boats and sail boats we advise the installation of a vertical flue where the heel angles of the boat may be larger. The following installation examples are most common.

HORIZONTAL FLUE GAS OUTLET

It is possible to fit a horizontal flue gas outlet to the boiler. The following points need to be observed:

- When a burner with an after purge cycle is used the maximum allowed length is 6 metres. A burner without an after purge cycle can be fitted with a maximum flue length of 2 metres plus the silencer.
- Make sure that the outlet is positioned at a sufficient height above the waterline. If this not possible use a swan neck bend in the pipe as in figure 4.
- Use the correct hull fittings for installing the flue through a hullside.
- Don't use more than 5 elbows of 90°.
- Every elbow of 90° is equivalent to 1 metre of straight pipe.

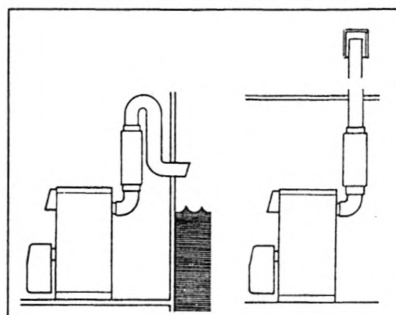


Figure 4

When a 80x60 silencer is installed, only the last meter of the chimney may be installed using 60 mm pipe.

VERTICAL FLUE GAS OUTLET

This way of installation is preferable for seagoing boats and sailing boats, because these boats encounter larger angles of heel through waves and while under sail. For this kind of flue gas outlet, the following points are important:

- Install a proper storm cowl on top of the chimney (this must stop rain from entering)(figure 4)
- Install a water trap for boilers bigger than B17, to trap possible water caused by condensation (figure 5).
- Keep the chimney as vertical as possible.
- Don't use more than 5 elbows of 90°.
- The maximum allowed length is 10 metres.
- Every elbow of 90° counts as 1 metre.
- Outside use outside double walled chimney pipe.

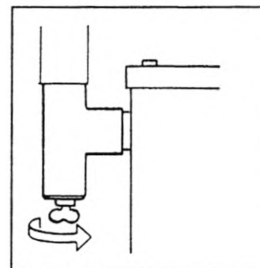


Figure 5

Hint: To reduce the noise resulting from flames, it is wise to install a silencer in the horizontal flue and the vertical flue.

Your Kabola supplier can provide you with all components which may be required for installation such as:

- Cowls.
- Flexible piping.
- Single and double walled chimney pipes.
- Hull and deck fittings.
- Silencers.
- Water traps.
- Insulation
- Securing clamps

4.1.5 Electrical connection

Warning: Disconnect the power supply from the boiler before you start the installation. Only use multiple stranded wire. **The quality of 230 VAC power supply to the boiler should be as good as the power supply from a land line.**

ELECTRICAL CONNECTION

The supplied room thermostat should be installed as listed below:

Connecting the room thermostat (see figure 6 and electrical diagram in appendix C)

1. Remove the cover of the main connector situated below the dashboard
2. Remove, if present, the wire between point 1 and 2
3. Connect point 1 of the connector to point L of the room thermostat.
4. Connect point 2 of the connector to point L1 of the room thermostat.

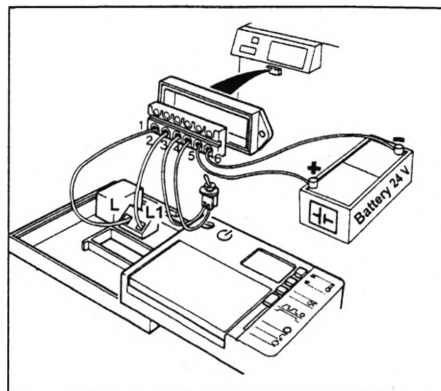


Figure 6

Attention: The core diameter of the connections mentioned above must be 0,75 mm² maximum. The wires should be suitable for the voltage used.

– Connection of the frost guard

1. Connect the switch to points 3 and 4 of the main connector. (Operation of the frost guard is discussed in chapter 5)

Electrical installation 24 VDC power supply for 230 VAC version

Warning: Never change the + pole with – pole on the battery (See figure 6)

1. Connect point 5 of the main connector to the + pole of the battery
2. Connect point 6 of the main connector to the – pole of the battery
3. Replace the cover on the main connector.

Hint: When no 24 VDC power supply is available, an adapter 230 x 24 Volt may be used. (ordernr. 9-I051) When a 12 VDC power supply is available a DC-converter 12 V in 24 V out may be used (ordernr. 15-P001).

The wire diameter for the supply mentioned above has to be 1 mm² for the 230 Volts AC version.

Electrical installation 24 VDC power supply for 24 VDC version

Warning: Never change the + pole with – pole on the battery (See figure 6).

1. Connect point 5 of the main connector to the + pole of the battery
2. Connect point 6 of the main connector to the – pole of the battery
3. Replace the cover of the main connector

The core diameter of the wires from points 5 and 6 of the main connector have to comply with the values from the table below

Table 1

Distance to battery	Core diameter
± 6 metres	6 mm ²
± 10 metres	10 mm ²
± 20 metres	16 mm ²

4.1.6 Filling the central heating system

The pressure in the system should:

- Never be lower than 0,5 bar cold;
- Never be higher than 2,5 bar hot;

Follow the procedure listed below for filling the CH-system (see figure 7)

1. Make sure the boiler is switched off
2. Turn the coupling nut below the pressure indicator to loosen it;
3. Connect the hose with a hose clamp to the connection.
4. Pull the hose connection a little downwards;
5. Fill the system slowly with water, until the pressure indicator indicates a pressure of 2 bar.
6. Fasten the coupling nut;
7. Bleed the CH-system
8. If necessary, fill with water again up to 2 bar of pressure.
9. Switch on the boiler and let the pump run for about 5 minutes.
10. Switch off the boiler.
11. Check the water pressure, if it is too low, repeat steps 5 through to 10;
12. Remove the hose.

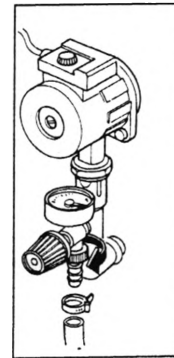


Figure 7

Hint: The CH-system can be filled with cooling fluid, suited for CH-systems (pH-value 8.5).

BLEEDING THE CIRCULATION PUMP

The circulation pump can only be bled when the electrical circuit is connected, because this has to be done with a running pump.

Follow the points listed below to bleed the pump (see figure 8):

1. Check if the rotor can rotate without problems by turning the pump by hand (see manual pump)
2. Loosen the screw on front of the pump ½ to 1 turn with a screw-driver.
3. Fasten the screw when water comes out of the opening.
4. The pump is bled.

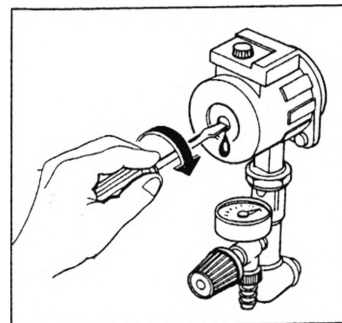


Figure 8

Attention: When locking pump couplings are supplied with the boiler, the adjusting grooves must point towards the pump

4.1.7 Mounting the oil burner

Hint: Check if the inspection opening on the mounting plate can be reached. If this is not the case the mounting plate can be turned 180° to reach the opening easier. For a B12 you need to saw an extra piece off the flange.

The mounting of the burner is done in the following way;

1. Place the nut for the flange bolt in the dedicated position, screw the bolt into the nut and place the gasket.
2. Mount the flange with the 4 supplied M8-bolts and hand tighten these on the mounting plate. **The arrow on the flange should point upward.**
3.
 - 3.1. Measure and set the distance from the back of the gasket, mounted behind the mounting plate, to the front of the flange using the table below and figure 9.

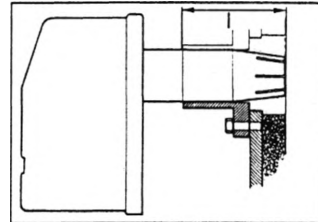


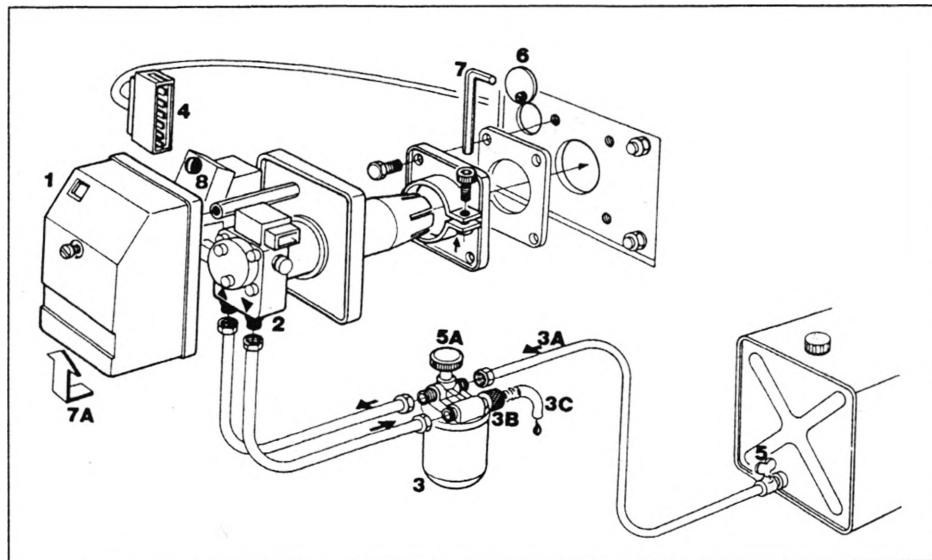
Figure 9

Boiler type	Distance in mm
B12-B17	60
B25-B35-B45	155

- 3.2. Scribe the distance on the flame tube;
 - 3.3. Push the flame tube gently in place up to the scribed position (see figure 9)
4. Lift the burner a little (figure 10) according to 7A;
5. Fasten bolt 7 (figure 10) on the flange to clamp the burner;
6. The bolts which have been hand tightened should now be fastened using a spanner.

Hint: Smear some sealant in the crack in the flange to seal.

Attention: Take care that the flame tube is not damaged during installation. Repairs to the flame tube are very expensive and don't fall under warranty.



4.1.8 Connecting the oil filter and oil burner

To connect the filter to the boiler follow the procedure below (see also figure 10)

1. Remove the burner cover (1);
2. Connect the oil pump (2) to the oil-filter (3), using the included fuel hoses. Make sure that the flow directions on the pump comply with those on the filter.
3. Connect the fuel line from the tank to the filter (5A). The fuel line must have an outer diameter of 8mm and must be made from copper or steel. The fuel line has to be connected directly to the oil tank. Correct functioning of the burner can not be guaranteed when a fuel manifold or T connection is installed.
4. Connect the plug (4) from the boiler to the burner.

Hint: When the oil tank is situated below the boiler or when the oil supply line comes from below the boiler, it is advisable to use a self bleeding oil filter. This prevents unnecessary malfunctioning of the burner. In the manual of the burner you will find an overview with the allowed dimensions of the oil supply line.

4.2 Starting your system

When everything is connected follow the procedure below:

1. Connect the boiler to the power supply.
Both the 230 VAC and the 24 VDC will need to be connected for the 230 VAC version and only the 24 VDC for the 24 VDC version.
2. Switch the boiler on with the on/off switch on the dashboard. The lamp in the switch will indicate that the system is active. This lamp is not present in the 24 VDC version. The LED on the top left of the dashboard should be lighted for both versions
3. Set the required boiler temperature between 55 and 90°C using the boiler thermostat.
4. Set the room thermostat so that it is switched on. (See manual of the room thermostat)
5. Starting of the oilburner (figure 10)
 - 5.1. Open the valve of the fuel tank (5)
 - 5.2. Install the bleed hose (3C) on the bleed opening of the filter
 - 5.3. Open the valve on the oil filter (5A)
 - 5.4. Start the oil burner.
 - 5.5. The burner switches on, when the burner is fitted with a pre-heating element, this will take approximately 1,5 minutes.
 - 5.6. Open the bleed valve on the oil filter.
 - 5.7. Check if oil is coming out of the hose.
 - 5.8. Check all oil connections for leaks.
 - 5.8.1. If the burner does not start, the control light (8) will light.
 - 5.8.2. Close the bleed valve (3B) on the filter.
 - 5.8.3. Wait approximately 3 minutes.
 - 5.8.4. Reset the burner by pushing button (8) and return to 5.4 (repeat if necessary)
 - 5.9. Close the bleed valve(3B) when only oil and no bubbles come out of the hose.

Attention: The oilburner is tested by the manufacturer, not adjusted. The adjustment of the burner has to be done by an experienced installer, because this requires expert knowledge. To be eligible for warranty, the boiler has to be adjusted by an approved installer. Contact your Kabola supplier to make an appointment.
Never adjust the burner using your own initiative.

5 Operating the boiler

When the boiler has been started and adjusted according to 4.2, operation of the boiler is very simple.

1. The required boiler temperature is set using the lower knob (8)
2. The after purge cycle of the circulation pump is set with the upper knob (7). This cycle can be set from 3 to 10 minutes.

The required temperature is set with the room thermostat, which regulates the boiler. The room thermostat operates the 3-way valve on the boiler. The operation of the thermostat is explained in the manual of the room thermostat.

If problems arise with the operation of the boiler, you will find a list of possible problems and solutions in Appendix D.

5.1 Explanation of the dashboard

The LED's on the dashboard display the active functions of the boiler.

1. This LED indicates if the control panel is connected to the 24 Volts power supply
2. This LED indicates if the room thermostat is active in combination with LED 6
3. This LED indicates if the frost guard is active
4. This LED indicates in combination with LED 5 if the burner is active
5. This LED indicates if the circulation pump is active
6. This LED indicates if the 3-way valve is active.

This means that the central heating system requires hot water. When domestic hot water is required, this LED will switch off.

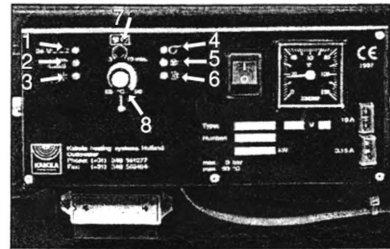


Figure 10

5.2 Operation of the frost guard

The switch which is mounted on the room thermostat is used when you leave the boat and switch off the central heating system. The central heating system will only switch on when the ambient temperature falls below + 5 °C.

To activate the frost guard, follow the procedure below:

1. Switch the frost guard switch (2) on the side of the room thermostat to the off-position (up)
2. Switch the switch on the front (1) of the room thermostat to the off-position (down)

If you only want to use the domestic hot water supply, follow the procedure below:

1. Switch the frost guard switch (2) on the side of the thermostat to the on-position (down)
2. Switch the switch on the front (1) of the room thermostat to the off-position (down)

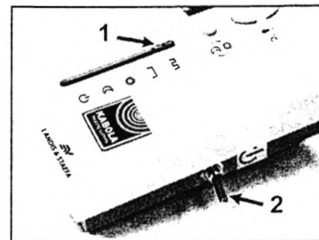


Figure 11

6 Cleaning and maintenance

6.1 Points for attention

Spare parts must be ordered through your Kabola supplier. For warranty purposes only original spare parts must be used. When ordering spare parts, state the type of the boiler and its serial number. Your Kabola supplier will then be able to supply the correct parts. In Appendix B, the main spare parts are listed.

6.2 Cleaning and maintenance

Warning: Maintenance and repairs should only take place when the boiler is switched off this is because the boiler may start unexpectedly. Take the plug from the wall socket for the 230 VAC versions. Disconnect the power supply for the 24 VDC version.

Warning: Maintenance and repairs may only be performed by personnel, who have read and understood the information in this manual, preferably an expert installer or mechanic.

Every week

- Drain the water from the water trap if installed

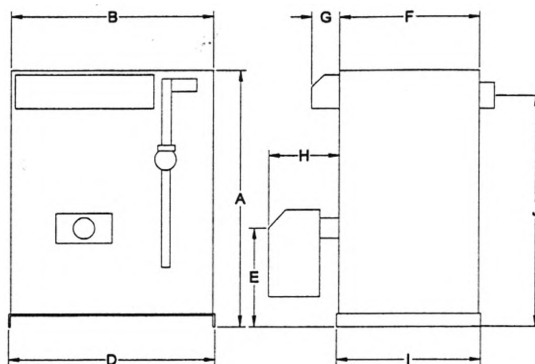
Every year

1. Clean the boiler
 - 1.1. Remove the burner (see § 4.1.5);
 - 1.2. Remove the burner mounting plate from the boiler;
 - 1.3. Remove the top cover of the boiler, **be careful not to damage the earthing wire for the 230 VAC version;**
 - 1.4. Remove the insulation.
 - 1.5. Remove the 4 bolts on the boiler top;
 - 1.6. Remove the boiler top;
 - 1.7. Clean the inside of the boiler, using a stiff brush;
 - 1.8. Clean the space between the pipes with a thin metal strip;
Attention: Don't use any aggressive solvents like thinner or gasoline.
 - 1.9. Clean the boiler with a vacuum cleaner;
 - 1.10. Replace the boiler top, if necessary use a new gasket;
 - 1.11. Replace the 4 bolts and fasten these;
 - 1.12. Replace the insulation;
 - 1.13. Replace the top cover of the boiler, **make sure the earthing wire is fitted correctly;**
 - 1.14. Replace the burner mounting plate and remount the burner (see § 4.1.5);
2. Clean the chimney;
3. Clean the watertrap if installed;
4. Change the oil filter element;
5. Clean the burner (see manual of the burner)

Hint: Kabola Heating Systems has a standard set of replacement parts for the yearly maintenance (see Appendix B)

Attention: The old oil filter element has to be processed as chemical waste.

Appendix A Technical specifications



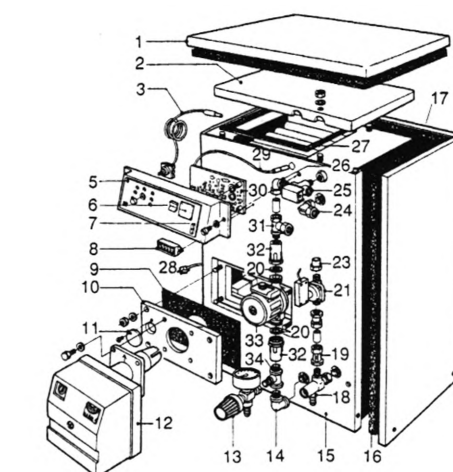
Type	B-12	B-17	B-25	B-35	B-45
A	600	670	970	970	970
B	470	545	560	560	560
D	495	555	570	570	570
E	230	270	280	280	280
F	335	395	340	440	510
G	70	70	70	70	70
H	325	325	385	385	385
I	340	405	390	490	560
J	480	545	760	760	760
Chimney ø	80	80	100	125	150
Flue gas temp °C	180-240	180-240	180-220	180-230	180-230
C.H.-aansluiting	22 mm	22 mm	22 mm	28 mm	28 mm
IP-value			50-11		
Burner 230 V	EL01B3H TC		EL01B3H	EL01B5H	EL01B5H
24 V	3C003		3C005	3C004	3C004
Nozzle 60°	0.40	0.50	0.85	1.00	1.25
Nom. Capacity kW min	11.2	14	19.7	29	40.7
Max	14	19.7	29	40.7	52.3
Max oil consumption kg/h	1.55	2.18	3.55	4.52	5.81
Test pressure in bar	5	5	5	5	5
Operating pressure in bar	3	3	3	3	3
Weight	85	118	150	173	210
Water volume	30	36	47	64	98
Control range temperature	65-90	65-90	65-90	65-90	65-90
Isolation thickness in mm	30	30	50	50	50
Fuel	HBO 1, HBO 2, diesel				
Efficiency in %	91	91	92	92	92
Waterside efficiency %	88	88	89	90	90
Relatief standby verlies			3 %		
Tapcapacity in l/min.	4.9	7	9	11	14

Appendix B Spare parts

Listed below you will find the most important parts of the boilers. These parts can be ordered from your Kabola supplier, please state type and serial number.
The numbers refer to the image

- | | | |
|----|---|-------------------------------|
| 1 | Boiler top cover | |
| 2 | Boiler cover | |
| 3 | Control thermostat | |
| 4 | | |
| 5 | Dashboard | |
| 6 | On/off switch | No light in
24 VDC version |
| 7 | Fuse holder | 10 and 3,5 A |
| 8 | Main connector | |
| 9 | Gasket burner
mounting plate | |
| 10 | Burner mounting plate | |
| 11 | Fire inspection
opening | |
| 12 | Oil burner | See specification |
| 13 | Pressure valve
pressure gauge
fill/drain cock | Wavicom |
| 14 | Elbow | (1"x1") |
| 15 | Boiler cover side front | |

- | | | |
|----|-----------------------------------|--|
| 16 | Insulation | |
| 17 | Boilercover back | |
| 18 | Elbow with drain ½" BSP x 15 mm | |
| 19 | Flow control | |
| 20 | Seal 1¼" | |
| 21 | Flow switch domestic hot water | |
| 22 | Room thermostat (not in picture) | |
| 23 | Connection 15 mm | |
| 24 | Knee 15 mm | |
| 25 | 3-way valve 24 V AC | |
| 26 | Knee 1" x 22 mm | |
| 27 | Boiler gasket | |
| 28 | Feed wire with plug | |
| 29 | NTC probe | |
| 30 | Control PCB | |
| 31 | T-connection 1" x 22 mm x 22 mm | |
| 32 | Pump coupling | |
| 33 | Circulation pump | |
| 34 | T-connection 1" x ½" x 1" | |
| 35 | Oil filter (not shown in picture) | |



Mineral wool thickness Appendix A

L&G REV 11

Honeywell

KHC 1.0

See specifications

Max. 25 µm, P_{max} 6 bar
Max. capacity 200 l/hour, total ± 6000 l.
Max. vacuum -0,5 bar

The following additional parts are available:

- | | | |
|----|--------|------------------------------|
| 36 | Nozzle | See technical specifications |
|----|--------|------------------------------|

For the yearly maintenance Kabola Heating Systems have compiled a set of spare parts often used during maintenance

- | | | |
|----|---------------------------------|--|
| 37 | Service set containing 27+35+36 | |
|----|---------------------------------|--|

Appendix C Electrical diagrams

Appendix D Troubleshooting

Listed below you will find a list with possible problems, their reasons and solutions.

When you encounter problems not listed, you should contact your dealer. **Never try to solve problems on your own.**

Problem	Possible reason	Possible solution
Burner will not start	Oil supply interrupted	Bleed the oil filter Change contaminated filter element Fill the oil tank
	Power supply interrupted	Check the fuses Check the power supply
Burner stops		Reset burner (once)
	Flame protection dirty (photo cell)	Clean glass of flame protection
	Flame protection defect (photo cell)	Replace flame protection
Burner starts pulsing	Flue gas flow interrupted	Clear chimney opening
	Boiler dirty	Clean boiler
	Oil supply interrupted	See above
	Nozzle defective	Replace nozzle
Burner shows error		Reset burner (once)
	Low voltage	Check voltage level
	Oil supply interrupted	See above
Boiler does not react to thermostat	Wire in main connector has not been removed (room thermostat)	Remove wire from main connector between 1 and 2
	Boiler thermostat incorrectly adjusted	Adjust boiler thermostat
	Battery of room thermostat flat	Replace battery
Water is not circulating	Pump couplings are closed	Open pump couplings
	Pump not connected to electricity supply	Connect pump
	Rotor of pump is stuck	Turn pump with your hand (see pump manual)

The LED's on the dashboard can display the following error codes

LED	3-way valve (6)	Reason
Voltage (1)		
Fast flashing	Out	Voltage too high
Slowly flashing	Out	Voltage too low
Slowly flashing	Slowly flashing	Probe incorrectly installed or defect
Out	Flashing	Current too high 3-way valve motor defective

The boiler will reset automatically when the problem has disappeared. Action from the user is only required when the NTC-probe is incorrectly installed, the user needs to have the connection of the NTC-probe checked.

Machinefabriek Gebr. Post B.V.
Populierenweg 41
3421 TX Oudewater
Netherlands



EC-declaration of conformity

We,

Machinefabriek Gebr. Post B.V.
Populierenweg 41
3421 TX Oudewater
Netherlands

declare under our own responsibility that the product:

Branderketel
Kabola Btap12/17/25/35/45

to which this declaration relates complies with the following standards

EN 303-1, EN 303-2, EN 304, EN 50081-1, EN 50082-1, EN 61010

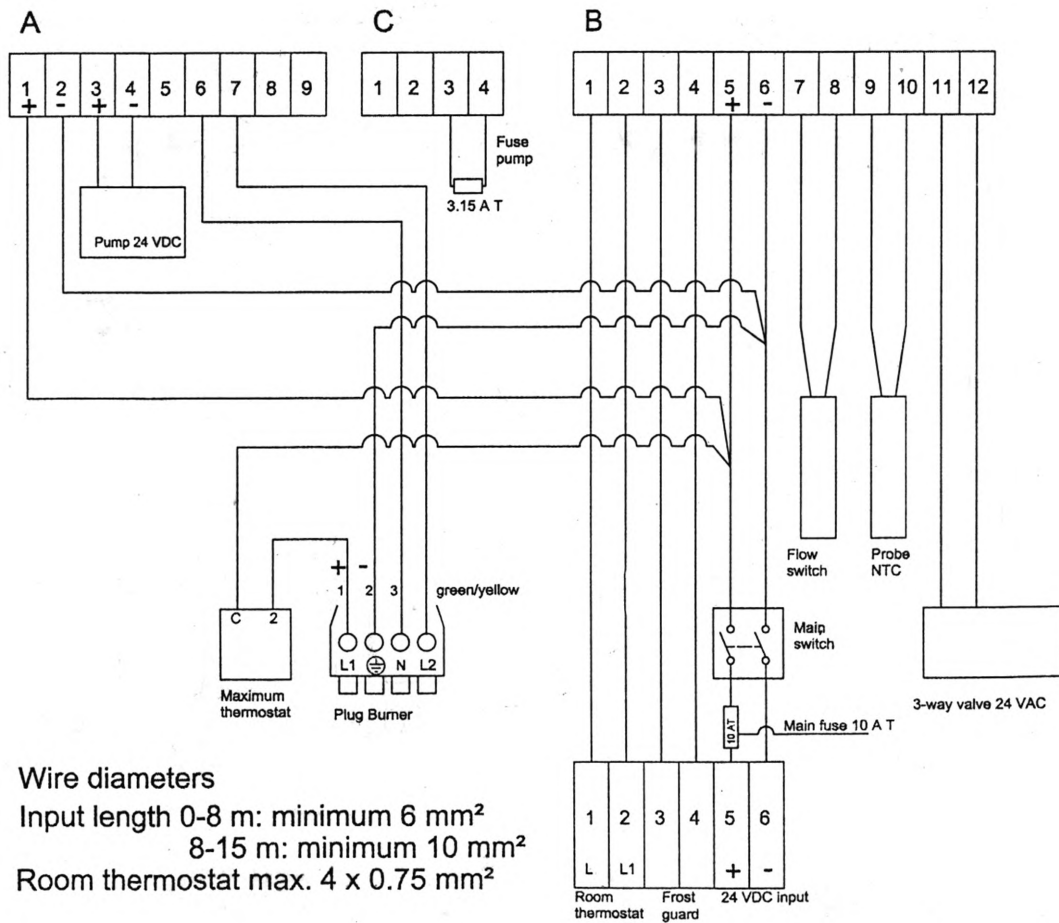
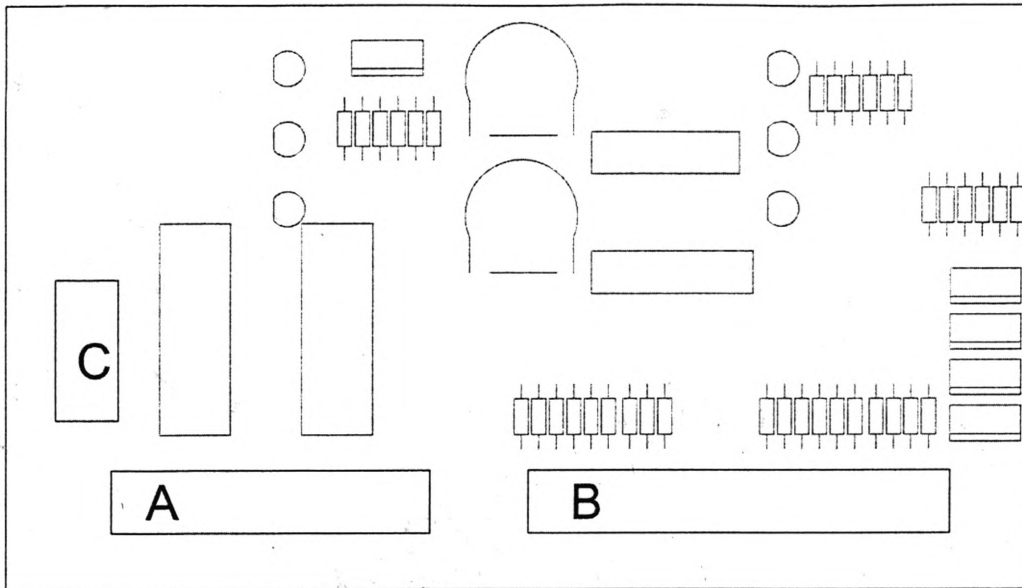
following the provisions of the following EC-directives

73/23/EEG,
89/336/EEG,
92/42/EEG,
amended by 93/68/EEG.

Nederland, Oudewater, 25-9-1997

C.W.A. Post
Directeur

Kabola B-tap 24 VDC 22-10-97



Kabola B-tap 230 VAC 22-10-97

